

ABSTRACT

Disclosed is an in-situ process that prevents pattern collapse from occurring after they have been etched in SO₂-containing plasmas. The developed process involving treating the etched wafer to another plasma comprising of a chemically reducing gas such as H₂. This treatment chemically reduces the hygroscopic sulfites/sulfates left on the surface after the main etch step. The lower sulfite/sulfate concentration on the wafer translates into considerably less moisture pick up and prevents high aspect ratio feature collapse.